A Study of Knowledge Management Practices using Grounded Theory Approach

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Abstract:

Knowledge Management (KM) is an emerging methodology that harnesses an organization's largely untapped resource, knowledge, not only to sustain competitive advantage but also to become innovative. Since knowledge is a crucial resource, it should be managed judiciously. KM helps integrate, manage, store, retrieve, and disseminate an organizations information and intellectual assets to improve business performance. To be successful, KM requires a major shift in organizational culture and commitment. The primary focus of this research is to see how the grounded theory approach can be applied to studying the knowledge management practices in organizations. Our ultimate goal is to develop an empirically testable model that informs organizations on how to successfully implement KM by clearly outlining the current practice of KM and their relationship to organizational purposes, implementation , success factors and metrics, ‘‘failure factors,’’ organizational impacts, and requisite organizational cultures and technology.

Keywords: Knowledge Management | practices | testable model

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Knowledge Management (KM) is an emerging methodology that harnesses an organization's largely untapped resource, knowledge, not only to sustain competitive advantage but also to become innovative. Since knowledge is a crucial resource, it should be managed judiciously. KM helps integrate, manage, store, retrieve, and disseminate an organizations information and intellectual assets to improve business performance. To be successful, KM requires a major shift in organizational culture and commitment. The primary focus of this research is to see how the grounded theory approach can be applied to studying the knowledge management practices in organizations. Our ultimate goal is to develop an empirically testable model that informs organizations on how to successfully implement KM by clearly outlining the current practice of KM and their relationship to organizational purposes, implementation, success factors and metrics, "failure factors," organizational impacts, and requisite organizational cultures and technology.

Introduction

The concept of Knowledge Management (KM) is at the forefront of many organizations today. The trend towards downsizing has lead to the loss of intellectual corporate assets. Hence, organizations are now exploring different methods to effectively capture and manage the knowledge of their employees and collective organizational knowledge. Since knowledge is a crucial resource for organizations, it should be managed judiciously. KM requires a major shift in organizational culture and commitment to enhance success. The primary focus of this syudy is to see how the grounded theory approach [1] can be applied to develop an empirically testable model that informs organizations on how to successfully implement KM. We eventually plan to outline the current practice of KM and their relationship to organizational purposes, implementation, success factors and metrics, "failure factors" [2], organizational impacts, and requisite organizational cultures and technology.

We first describe knowledge and KM concepts. A brief discussion of Knowledge Management Systems (KMS) is then presented. We then present the purpose of the study and then discuss grounded theory approach. We finally provide some concluding remarks.

Knowledge

Before we discuss the details of KM, we first define knowledge and distinguish it from data and information. Data refers to stored facts and measurements while information is organized and processed data that are timely and accurate. Though the philosophic and epistemological discussions on knowledge are important, we focus on the aspects of knowledge that help us understand its application in an organization. Davenport and Prusak [3] claim that knowledge is derived from information as information is derived from data. According

to them, information is converted into knowledge through the process of comparison, connections (understanding relations), conversation (uncover what others think about the same information, and consequences (how information affects decisions). Most organizations already have a massive reservoir of knowledge in a wide variety of organizational processes, best practices, know-how, policy manuals, customer trust, MIS, culture, and norms. Useful (or better) knowledge is a critical asset to an organization as it is closer to action than data or information[4].

Polanyi [5,6] describes both tacit and explicit knowledge. *Tacit knowledge* is usually in the domain of subjective, cognitive, and experiential learning, and "is highly personal and hard to formalize"[7], whereas *explicit knowledge* deals with more objective, rational, and technical knowledge (data, policies, manuals, procedures, software, documents, reverse engineering, etc.) that has been codified. Explicit knowledge usually exists in some articulated, structured form and therefore can be easily transferred. Tacit knowledge (scientific expertise, operational know-how, experience, trade secrets, and understanding), in contrast, is diffused, unstructured, without any tangible form and therefore, difficult to codify. Nonaka and Takeuchi [7] indicate that intangibles like insights, intuitions, hunches, gut feelings, values, images, metaphors, and analogies are the often overlooked assets of organizations. Further detailed definitions of knowledge may be found in Clarke[8], Davenport *et al.*[9], and Davenport and Prusak[4].

Organizations are just now recognizing and developing specific methodologies to convert tacit knowledge into explicit knowledge to be codified and therefore captured, stored, transmitted, used, and can be acted upon by others. This powerful concept has fueled the development of KM methodologies, tools, and applications.

Knowledge Management

For centuries, knowledge has been documented in traditional ways: oral traditions, clay tablets, scrolls, books, manuals, etc. Good managers in organizations have been using the know-how of people they hired with skills and experience, and processes for effective management on an *ad hoc*, casual basis. However, only recently have organizations begun to focus their interest on this aspect in a more systematic and a deliberate manner. Many organizations use reengineering to adapt to competitive environment leading to downsizing which, in turn, generally leads to a loss of intellectual assets. The end result of this lessening of knowledge is decrease in productivity, teamwork, innovation, and talents. Hence,organizations are now exploring methods to capture and manage knowledge of their employees effectively. Implementing an efficient KM practice cannot only help firms gain competitive edge in the market but also obtain other benefits such as reduction in loss of intellectual capital and lowering costs by decreasing redundancy in knowledge based activities.

KM as a discipline helps the companies focus on identifying its knowledge, explicate it in a way that it can be shared in a formal manner and thus gets reused. One definition of KM is "a process that helps organizations find, select, organize, disseminate, and transfer important information and expertise necessary for activities such as problem solving, dynamic learning, strategic planning and decision making" [10,11]. Another approach is to view KM as the concept under which data and/or information is turned into actionable knowledge and made available to individuals who can use and apply it [12].

Although KM is primarily dependent on the organizational culture, motivation and policies, it still needs the right technologies to implement it successfully. Current KM initiatives involve the creation of knowledge databases, active process management, knowledge centers, collaborative technologies, and knowledge webs. A widely recognized key component of any KM system is its knowledge warehouse or knowledge repository [13]. Such a repository contains both tacit as well as explicit knowledge.

A major problem in KM is how to convince, coerce, direct or otherwise get people within organizations to share their knowledge. This is a major *change management problem* that poses serious leadership challenges to a Chief Information Officer (CIO) or Chief Knowledge Officer (CKO). Effective knowledge sharing and learning require cultural change within the organization, new management practices, senior management commitment, and technological support. Various measures such as increased efficiencies in development of new product and services, enhanced business processes, and wiser strategic decisions can be used to measure the effectiveness of knowledge . These open rich avenues for potentially high-impact research.

Knowledge Management System

A knowledge management system (KMS) facilitates KM by ensuring knowledge flow from the person(s) who know to the person(s) who need to know throughout the organization, while knowledge evolves and grows during the process.

In Figure 1, we show the integration of the elements of the organization through a KMS. Keeping the framework of the tenets of knowledge [14] in mind, a KMS in an organization should encompass the following: creating a knowledge culture, capturing knowledge, knowledge generation, knowledge explication (and digitization), knowledge sharing and reuse, and knowledge renewal. An organization's KM strategy cannot be successful unless the organization has a trusting knowledge culture that emphasizes the role and value of knowledge in day-to-day business decisions and enterprises. The culture must be geared towards rewarding innovation, learning, experimentation, scrutiny,and reflection. This is the part of KM where technology plays a minor role and the organizational culture becomes the enabler.

In the process of accomplishing its operational activities to strategic missions, an organization generates data, information, inferences, decisions, policies, markets, etc. KM must incorporate the process of sifting through this maze of activities to identify, isolate and capture the core knowledge that drives and adds value to that activity. This core knowledge could reside in an individual, process, policy, parameters, specifications, and/or interaction. The KMS process must be geared towards establishing the ownership of the knowledge and the ensuing rewards for explication, sharing and transferring it to others.

Purpose of the Study

We have already examined KM practices, challenges, and trends of the IS and trade literature. However the IS research discipline currently does not have models that describe the important organizational and technological factors that are involved in KM, and how they interact. This work is a first step at developing such models that lead to empirical work that will determine:

- The state-of-the-art in the evolving field of KM,
- CKO's and managers' perceptions of the potential and real impacts of KM,

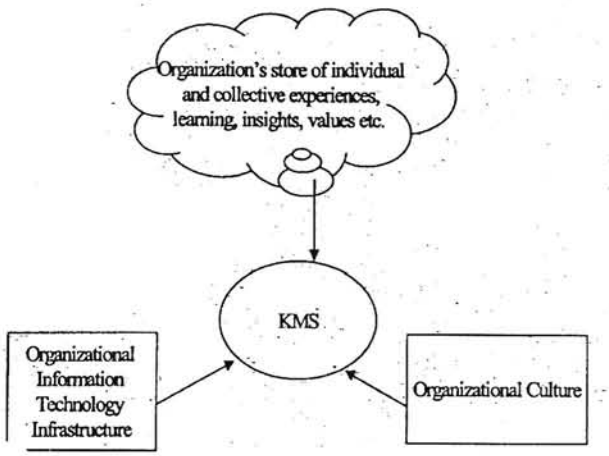

Figure 1 — Integration of various elements of the organization through a Knowledge Management System (KMS)

- Identification of specific impacts of organizational culture on KM, and
- Specific factors that lead to KM success.

Alavi and Leidner [15] presented an exploratory study of KMS using a survey. Our work is fundamentally different. Their study provides a descriptive analysis of current practices, nature, and outcomes of KMS and does not focus on building or testing models on KM practices. We, on the other hand, plan to ultimately develop an understanding of the current state-of-the-art of KM in organizations that lead to a model of KM with empirically testable hypotheses for further research studies. This model will provide a comprehensive and encompassing framework for the adoption of KMS organizational issues. Hence,our primary purpose is to look at how grounded theory approach can be used as a basis to derive potentially testable relationships among the important organizational and IS factors of KM.

Grounded Theory Approach

Glaser and Strauss [16] first coined the term grounded theory while conducting research into American health institutions. This approach offers researchers a strategy to sift and analyze data that are nonstandard and unpredictable [17] .This means that the hypotheses and concepts for the testable model not only come from the data but have to be systematically categorized during the research process[18]. In grounded theory approach, as opposed to theory verification approaches, data collection and analysis are conducted in an iterative process,

calling for comparison, contrasting, cataloguing and classifying the subject of the study to develop variables which have significant explanatory power and are intimately tied to the data[16].Therefore the evolving nature of grounded theory approach allows for investigations and subtleties which may not be possible using pre-specified sampling plan [16,19] . Glaser and Strauss[16]also state that the researchers involved in the theory generation need not use random sampling techniques. They argue that statistical sampling is conducted to collect evidence to be used in descriptive or verification studies, whereas theoretical sampling is conducted to develop rich comparative settings to identify and investigate variables and their interrelations.

Burchell and Fine[19]applied the theory generation concept to develop a theory of product concept development that can improve understanding of success and failure in product concept development. They combine the grounded theory methods familiar to sociologists with causal-loop modeling familiar to systems dynamics, yielding a rigorous tool for systematically collecting, organizing and distilling large amounts of field-based data.

Based on this approach, Segev [18]present a framework for a theory of corporate policy through a survey of case studies used in capstone courses in strategy and policy in AACSB accredited graduate programs in schools of business administration in the US. The author claims that at that point of time no framework existed and the grounded theory approach facilitated the discovery of theory from data by use of comparative analysis. Hence, it was appropriate to use grounded theory for Segev's [18] research as conceptual categories were developed from the data and then hypotheses formed and tested through comparative analyses that were verified in different settings.

Grounded theory is generally of interest to Organizational studies that are in pilot stages of large inquiries of qualitative data. The data obtained is generally unpredictable and nonstandard. Establishing testable relationships for such studies can be meaningful only if it is based on existing frameworks. If a framework does not exist then meaningful contributions cannot be made. Grounded theory thus can be applied to derive a framework that can be used to not only file existing research findings but also facilitate systematic contributions to future research[18].

Applying Grounded Theory Approach To Knowledge Management Practice

Martin and Turner [17] state that grounded theory is particularly well-suited for studies that deal with qualitative data that are gathered from semi-structured or unstructured interviews.

Since the KM discipline is in its infancy, such an approach is appropriate. Grounded theory has been effectively used in organizational research [20,21] and was adopted here for the same three reasons that Orlikowski[1] gives:

(i) "Grounded theory «is an inductive, theory discovery methodology that allows the researcher to develop a theoretical account of the general features of a topic while simultaneously grounding the account in empirical observations or data» [ref.17, p. 141].

(ii) A major premise of grounded theory is that to produce accurate and useful results the complexities of the organizational context have to be incorporated into an understanding of the phenomenon, rather than be simplified or ignored[17,21] .

(iii) Grounded theory facilitates the generation of theories of process, sequence and change pertaining to organizations, positions, and social interaction[1] [ref.16, p. 114].

As in Orlikowski[1],the inductive, contextual, and processual characteristics of grounded theory fit well with the interpretive orientation of this work. KM is in a stage for which the grounded theory approach is an appropriate methodology.

Conclusion

This work is one of many steps leading to an empirically testable model of the factors that influence KM success and organizational impacts and change. We provide some background on knowledge, knowledge management, knowledge management systems, and grounded theory approach. Grounded theory simply stated means building theory from data. It has been applied to several organizational studies where there has been lack of existing frameworks or theories. We justify why grounded theory approach is suitable in studying

the KM practices in organizations. Ultimately, this phase of research should lead to a proposed model of KM implementation in practice and KM success.

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